BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

DATE: February 2000

BUDGET ACTIVITY: 4 - Demonstration and Validation

PE NUMBER AND TITLE: 0603868C Navy Theater Wide - DEM/VAL

PROJECT: 1266

COST *(In Thousands)*	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
1266 Navy Theater Wide *	366325	375764	382671	287274	214301	246657	429674	TBD	TBD

A. Mission Description and Budget Item Justification

The requirement for the Navy Theater Wide (NTW) Theater Ballistic Missile Defense (TBMD) system is to provide protection to U.S. and allied forces against medium to long range theater ballistic missiles (TBMs), which may be equipped with Weapons of Mass Destruction (WMD). This protection includes those political and military assets designated as vital to U.S. interests. NTW will provide an effective defense when the ship is positioned near the enemy TBM launcher to effect ascent phase intercepts; along the TBM trajectory as the TBM passes over water, or inland along the coast to effect midcourse intercepts; and, near the defended area to provide terminal phase intercepts and achieve an additional layer of defense for lower-tier TBMD systems.

The NTW system builds upon the existing AEGIS Weapon Systems (AWS) and the STANDARD Missile (SM) infrastructure as a further evolution to the Navy Area TBMD system. The AWS (as modified for Navy Area TBMD) will be evolved to support exoatmospheric ascent, midcourse, and terminal phase engagements. The Navy SM-2 Block IV will be modified to accommodate a kinetic warhead (KW), a new third stage propulsion system, and exoatmospheric guidance. The new variant of the SM is the SM-3.

The NTW AEGIS Lightweight Exoatmospheric Projectile [LEAP] Intercept (ALI) Program consists of a series of near-term flight tests with the primary objective of demonstrating that LEAP technologies can be integrated with a modified SM-2 Blk IV and AWS to hit a TBM target in the exoatmosphere.

In April 1999, the NTW Program was reviewed by the Defense Acquisition Board (DAB) resulting in an Acquisition Decision memorandum (ADM), signed on 4 May 1999, endorsing the overall program approach. DAB approved the block approach to the objective NTW capability. As part of the Block II, a cooperative program has been initiated with the Government of Japan.

From an acquisition viewpoint, the Department has directed the Navy to continue this evolutionary block approach, through an initial system flight-test program (AEGIS LEAP Intercept (ALI)), followed by three developmental increments of the Block I system. These increments, Block IA, IB and IC, provide the warfighter with ascent-phase TBMD capability that evolves toward the Block II objective system using a spiral evolution acquisition strategy. The NTW program can deliver a warfighting capability by delivering first a contingency capability followed by successive capability deliveries leading to a full ORD compliant NTW Block I system. The decision to fully fund the NTW program has not been made pending results of ALI flight testing. Upon completion of the ALI tests, the Department will make the decision to fund and at what level based on performance.

***NOTE**: Included in the funding for NTW are dollars through the FYDP for cooperative development efforts with the Government of Japan for NTW Block II technologies. The funding is as follows:

FY99	FY00	FY01	FY02	FY03	FY04	FY05
20000		15901	10228	9921	34657	14701

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FY 1999 Accomplishments:

•	322984	Conducted successful AUTUMN EVENTS Risk Reduction Activity in Nov 98 where TBM targets were detected, tracked, and had simulated engagements conducted against them using the AEGIS LINEBACKER equipped cruisers, the High Range Resolution radar equipped AEGIS destroyer, and the SM-3 Kinetic Warhead Seeker Captive Carry Testbed. Successfully passed LINK 16 TBM data between LINEBACKER cruisers and THAAD and Patriot Information Control Center. Continued the execution of the ALI Flight Demonstration Program (FDP), ALI and Block I associated risk reduction activities, including radar improvements competition for the radar discrimination RRA, and NTW Block I TBMD system engineering and planning. Continued the design, development, manufacturing, integration, and testing of ALI Control Test Vehicles (CTV), ALI/Threat Representative Testing (TRT) Flight Test Rounds (FTRs), and associated ground hardware and test equipment. Performed AEGIS Combat System (ACS) development engineering to support the ALI program. Continued the NTW test and evaluation process to include participation in the TMD Critical Measurements Program (TCMP)-3A where threat representative data was collected by NTW weapon system components and interoperability with other BMD systems was demonstrated within the evolving USACOM sponsored TMD Family of Systems architecture. ($10M of the $322.984M will be used for FY00 requirements.)
•	4183	Conducted successful full scale, direct hit sled test. Continued lethality requirement definition support and lethality performance testing of NTW KW
•	19158	Continued targets procurement to support NTW test and evaluation, and provide test facilities support.
•	20000	Commenced cooperative development efforts in FY99 ($10M) with the Government of Japan on selected NTW Block II technologies and will continue effort in FY00 ($10M). Initial Requirements Analysis and Design (RA&D) MOU signed 16 Aug 1999.
Total	366325	

FY 2000 Planned Program:

•	356911	Continue the execution of the ALI and Block I associated risk reduction activities, including advanced radar improvements for the radar discrimination RRA, and NTW Block I TBMD system engineering and planning. Continued the design, development, manufacturing, integration, and testing of ALI/TRT Flight Test Rounds (FTRs) and associated ground hardware and test equipment. Continued the NTW test and evaluation process.
•	2188	Continue lethality requirement definition support and lethality performance testing of NTW KW.
•	14975	Continue targets procurement to support NTW test and evaluation.
•	1690	Explore NTW application of advanced technologies through the Small Business Innovative Research (SBIR) Program..
Total	375764	

FY 2001 Planned Program:

•	353875	Continue the execution of the ALI and Block I associated risk reduction activities and NTW Block I TBMD system engineering and planning. Continued the design, development, manufacturing, integration, and testing of ALI/TRT Flight Test Rounds (FTRs) and associated ground hardware and test equipment. Continued the NTW test and evaluation process.
•	6619	Continue lethality requirement definition support and lethality performance testing of NTW KW.
•	6276	Continue targets procurement to support NTW test and evaluation.
•	15901	Continue RA&D cooperative development efforts with the Government of Japan on selected NTW Block II technologies.
Total	382671	

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B. Program Change Summary	FY 1999	FY 2000	FY 2001
Previous President's Budget (FY 2000 PB)	364284	329768	369049
Appropriated Value			
Adjustments to Appropriated Value			
a. Congressional General Reductions			
b. SBIR / STTR			
c. Omnibus or Other Above Threshold Reductions			
d. Below Threshold Reprogramming			
e. Rescissions	+2041	-4004	-2378
Adjustments to Budget Years Since FY 2000 PB		+50000	+16000
Current Budget Submit (FY 2001 PB)	366325	375764	382671

Change Summary Explanation:

Funding: FY00 increase represents Congressional add for advanced radar improvements. FY01 increase represents NTW Cooperative Development efforts with the Government of Japan for the Requirements Analysis and Design (RA&D) phase. FY02 on out increase represents funding to support the Upper Tier Strategy as identified by Department Guidance.

Schedule: Adequate resources provided to achieve AEGIS LEAP Intercept (ALI) flight testing through FY02 and maintain industrial base capability through FY05.

Technical: None.

C. Other Program Funding Summary	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost
Navy Area – 0604867C	241782	307274	274234	228596	85866	33293	29369	Cont	TBD
Navy Area Procurement - 0208867C	42671	18143	0	6983	56892	150882	176524	Cont	TBD
THAAD – 0603861C	429266	523525	0	0	0	0	0	0	TBD
THAAD – 0604861C	0	79462	549945	685168	789736	755134	591049	Cont	TBD

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D. Acquisition Strategy: The Navy strategy for NTW TBMD development calls for the evolution of the existing AEGIS Weapon System (AWS), STANDARD Missile (SM), Vertical Launching System (VLS), and Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) systems. This evolutionary approach leverages previous investments and takes advantage of already existing trained crews, industrial capability, engineering support, and previously developed assets such as the Lightweight Exo-Atmospheric Projectile (LEAP).

E. Schedule Profile	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Control Test Vehicle 1	4Q								
Complete Navy TBMD COEA Phase II		1Q							
Target Test Vehicle 1			1Q						
DAB Review			3Q						
Control Test Vehicle 1A			4Q						
Flight Test Round 1				4Q					
Flight Test Round 2					1Q				
Flight Test Round 3					1Q				
Flight Test Round 4					2Q				
Flight Test Round 5					3Q				
Flight Test Round 6					4Q				
Flight Test Round 7					4Q				
Flight Test Round 8								1Q	
Flight Test Round 9								2Q	
Flight Test Round 10								3Q	

BMDO RDT&E COST ANALYSIS (R-3)

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Missile & Radar Dev	CPAF	Raytheon	720004	179010	CONT	210200	CONT	TBD	TBD	
b. AWS & VLS Dev	CPAF	Lockheed Martin	197562	50924	CONT	60672	CONT	TBD	TBD	
c. Radar Development	845	Lockheed Martin	9750	13000		0		0	22750	
d. VLS Development	CPAF	United Defense	12047	3043	CONT	2550	CONT	TBD	TBD	
e. Missile Dev/System Engineering/BMC4I	CPFF	JHU/APL	74351	18375	CONT	19327	CONT	TBD	TBD	
f. System Engineering	CPFF	TSC	6800	1300	CONT	1500	CONT	TBD	TBD	
g. AWS & Missile Dev/System Engineering/ BMC4I	WR	NSWC Dahlgren	99038	16664		18336		TBD	TBD	
h. System Engineering/ RRA/BMC4I	MIPR	MIT/LL	19394	9083		9518		TBD	TBD	
i. Various		BMDO	89271	15245		0		0	108520	
j. Various		Misc	35059	4146		4240		TBD	TBD	
Subtotal Product Development:			1263276	310790		326343			TBD	

Remark:

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Engineering Support	CPFF	Anteon	5984	435	CONT	620	CONT	TBD	TBD	
b. Engineering Support	CPAF	Marconi	3672	600	CONT	500	CONT	TBD	TBD	
c. Engineering Support	CPFF	SSI/PSI	1873	445	CONT	540	CONT	TBD	TBD	
d. Engineering Support	CPFF	SPA	1681	0		0		0	1681	
e. Mgmt & Prof Supt Svcs		Misc	358	250		250		TBD	TBD	
Subtotal Support Costs:			13568	1730		1910			TBD	

Remark:

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. DT&E	CPAF	Lockheed Martin	2000	535	CONT	1000	CONT	TBD	TBD	
b. DT&E	CPAF	Raytheon	0	2421	CONT	2500	CONT	TBD	TBD	

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c. DT&E	CPFF	JHU/APL	5589	2379	CONT	1614	CONT	TBD	TBD	
d. DT&E	WR	NAWC Point Mugu	2200	872	CONT	900	CONT	TBD	TBD	
e. Lethality / DT&E	WR	NSWC Dahlgren	17049	4733		6660		TBD	TBD	
f. DT&E	WR	NSWC Port Hueneme	3685	3333		3168		TBD	TBD	
g. DT&E	MIPR	NAIC	6118	500		0		0	6618	
h. DT&E	WR	PMRF	9656	6601		5097		TBD	TBD	
i. Targets	MIPR	SMDC Army	41461	14975		6276		TBD	TBD	
j. DT&E		Misc	14389	5366		2820		TBD	TBD	
k. Facilities	MIPR	NHTF	2501	0		0		0	2501	
Subtotal Test and Evaluation:			104648	41715		30035			TBD	

Remark:

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Internal Operating	WR	NAVSEA	4800	2345		2500		TBD	TBD	
b. Program Management	CPFF	Anteon	8000	6428	CONT	6380	CONT	TBD	TBD	
c. Program Management	CPAF	Marconi	2000	975	CONT	960	CONT	TBD	TBD	
d. Program Management	CPFF	SSI/PSI	1500	1212	CONT	1260	CONT	TBD	TBD	
e. Program Management	WR	NSWC Dahlgren	23476	4356		6300		TBD	TBD	
f. Program Management	WR	NRL	3524	965		1100		TBD	TBD	
g. Program Management	WR	NAWC China Lake	11873	2676		2906		TBD	TBD	
h. Program Management	WR	NWAD	2430	1106		1200		TBD	TBD	
i. Program Management	WR	NSWC Indian Head	3189	772		1055		TBD	TBD	
j. Program Management		Misc	3000	371		387		TBD	TBD	
k. Internal Operating		Misc	3027	323		335		TBD	TBD	
Subtotal Management Services:			66819	21529		24383			TBD	

Project Total Cost:			1448311	375764		382671			TBD	

Remark: